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MICROSOFT CORPORATION ONE MICROSOFT WAY REDMOND, WA 98052-6399			EXAMINER MCLEAN, NEIL R	
			ART UNIT 2625	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/733,045	Applicant(s) GREEFF ET AL.	
	Examiner Neil R. McLean	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 1-31 are pending in this application.

Response to Arguments

2. Applicant's argument, see Remarks Made in an Amendment, filed 11/13/2008, with respect to the rejection(s) of claim(s) 1-31 under Stringham (US 7,394,558) have been fully considered but are not persuasive.

3. Regarding Applicant's Argument:

“Therefore, at least one difference between the Stringham reference and the present claims is the multiple requests for rendering data for a single print job. Thus, the Applicant respectfully submits that Stringham does not disclose all of the features of the independent claims in their entirety.”

Examiner's Response:

The Examiner respectfully disagrees with applicant regarding the interpretation of the Stringham reference. In particular, the Examiner does not perceive the Stringham reference to be a 'push'. The Examiner perceives a data 'push' to be when data or a program from a server to a client is at the instigation of the server as opposed to 'pull' technology which is the process of retrieving data from a network server. (Microsoft Computer Dictionary; 2002; pages 430-431.)

The Examiner refers to Figure 3, Step 212 - WHEN READY FOR PRINT JOB DATA, SEND REQUEST FOR PRINT JOB DATA TO COMPUTER.

The Examiner also refers to Column 18; lines 4-13, in particular "determining based on the information whether the printer is currently configured to print the job". Note the Examiner perceives this as the printer determining if it has the resources such as enough memory to print the job, and, Column 18, line 11, "waiting until the printer is configured to print the print job before sending to the computer the request for the print data..."

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 1-25, and 27-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Stringham (US 7,394,558)

Regarding Claim 1: (Previously Presented)

Stringham discloses a method of controlling rendering (This invention relates generally to printers and printing, and more particularly to modifying printing based on print job clues as disclosed in Stringham's Summary of Invention) by a rendering device comprising:

a) providing at least a half duplex or better bi-directional communications (Remote I/O module 124 manages communication between printer 104 and one or more remote devices (e.g., via network 106 of FIG. 1); Column 2, lines 50-52) path between a client (Host 106 in Figure 2) and the rendering device (printer 104 in Figure 2).

said device including resources for storing data (The printer typically includes a memory for buffering some print job data; Column 6, lines 21-22) and rendering an image based on data sent to the device by the client through the bi-directional communications path (Printers 104 can be any of a variety of printing devices capable of generating a hard copy of data (e.g., received from one of computers 102); Column 2, lines 9-11); and

b) co-ordinating rendering by the rendering device (Local I/O module 122 controls the local input of commands and/or data to printer 104; Column 2, lines 36-37) by:

i) sending from the client an initial request for services (Print job module 146 generates print jobs to be sent to printer 104. Print job module 146 generates a print job in response to a request from another application (not shown) executing on computer 102 to print a document, file, or other electronic data as described in Column 4, lines 14-18) relating to a job to said rendering device that indicates characteristics (Queue 130 maintains print job clues that are sent to printer 104. A "print job clue" refers to certain information regarding a print job. A print job clue, however, is not embedded in the print job itself and can be transmitted as well as processed independently of the print job. Each print job clue sent to printer 104 includes information describing the print job associated with the clue. The clues are kept in queue 130, which can be accessed by print job scheduling module 126 to determine an order in which print jobs are to be printed, as well as by print job presentation module 128 in order to present information about the print jobs as described in Column 3, lines 40) of said job;

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ii) acknowledging, at the rendering device the initial request and requesting rendering data for the job to be sent by the client (Generally, during operation, when an application on computer 102 desires to print data, the application initiates a print request. In response to the print request, clue generation module 144 generates a print job clue 152 that is communicated to printer 104. Print job scheduling module 126 determines when it needs to start receiving the print job data for the print job, and sends a request 154 for the print job data to computer 102 so that it will receive the print job data at approximately the time it has determined it needs to as described in Column 4, lines 37-45); and

iii) in response to the request for rendering data from the rendering device, sending from the client rendering data (In response to this request, print job module 146 sends the print job data 156 to printer 104 for printing.) and awaiting additional requests for more data or in the event all data of a job has been sent to the rendering device awaiting an indication that rendering of said job has been completed (e.g., printer 104 can use this information to: a) present to a user an indication of those print jobs that have been printed and/or are waiting to be printed; b) estimate a time to complete a print job that is presently being printed and/or is waiting to be printed; and/or c) determine an order that pending print jobs are to be printed as described in Column 5, line 62 – Column 6, line 2).

Regarding Claim 2: (Original)

Stringham further discloses the method of claim 1 wherein the characteristics sent with the initial request includes an amount of data for the job (e.g., Total Page Count shown in Column 5, Table 1).

Regarding Claim 3: (Original)

Stringham further discloses the method of claim 1 wherein the initial request indicates that an amount of data in the job is not known (The printer 104 may generate the ghost

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print job clue using certain default values in place of actual values that are not immediately known. For example, the printer 104, upon initially receiving the print job request, **may not know one or more of the following: a) the total page count of the print job,** b) the print medium size that is to be used to print the print job, and/or c) the print quality setting that is to be used to print the print job. The printer 104, however, may be able to determine some or all of these values while it is processing the print job (and/or after the printer 104 has completed the print job). Once actual values are determined, the printer 104 may replace the corresponding default values with the actual values as described in Column 7, lines 53-65).

Regarding Claim 4: (Original)

Stringham further discloses the method of claim 1 and wherein the data sent to the device includes a data unavailable indicator which indicates to the device data for said job is presently not available and further including a timeout during which the device suspends processing of said job until the data becomes available (The status information that is presented to the user for the print job can vary by implementation. If the print job has yet to be received by the printer, the status information may indicate when the print job will be received by the printer as described in Column 8, lines 47-51).

Regarding Claim 5: (Original)

Stringham further discloses the method of claim 1 wherein the client sends data to the rendering device when said data is made available to said client and wherein the rendering device awaits receipt of more data or an end of data indicator (The job status information may also provide information regarding other print jobs that either have been printed, have yet to be printed and/or are waiting to be printed as described in Column 8, lines 56-59).

Regarding Claim 6: (Original)

Stringham further discloses the method of claim 1 wherein the device discards data already sent to the device to accommodate additional data from the print client (Printing of print jobs may also be modified by canceling the print jobs. A print job can be canceled at virtually any time. If the print job data has not yet been received from computer 102 (or has started to be received but all of it has not yet been received), then scheduling module 126 returns an indication of the canceling to computer 102 (e.g., print job module 146). This indication allows computer 102 to cancel the print job from its records (e.g., remove the print job from the computer's spooler) as described in Column 15, lines 8-14).

Regarding Claim 8: (Original)

Stringham further discloses the method of claim 1 wherein the rendering device is a printer and the data is organized into pages by the client and wherein the requests for data sent by the printer to the client fulfills the needs for printing one or more pages (e.g., Total Page Count shown in Column 5, Table 1).

Regarding Claim 9: (Original)

Stringham further discloses the method of claim 8 wherein the initial request includes an amount of data in the job and wherein in the event the printer determines from the initial request sent by the client that it has enough resources to handle an entire document, the printer requests a transfer data for printing an entire document (Referring to Figure 3; A print job clue can include different fields each for providing specific information about the associated print job. Table I below includes various fields that may be included in a print job clue. The information in the print job clues received by printer 104 may be used by printer 104 in a number of ways. Exactly how this information is used can vary by implementation as well as what information is included in the clues. For example, printer 104 can use this information to: a) present to a user an indication of those print jobs that have been printed and/or are waiting to be printed; b) estimate a time to complete a print job that is presently being printed and/or is

waiting to be printed; and/or c) determine an order that pending print jobs are to be printed.).

Regarding Claim 10: (Original)

Stringham further discloses the method of claim 1 wherein the rendering device is a printer and said printer comprises a memory which stores document resources or a part of a document resource and wherein the printer maintains a hit cache and deletes resources from the cache when that have not been recently used when new resources are added to the cache (e.g., If the print job clues are saved, then each printer that the print job clue was sent to but that the print job will not be printed at (e.g., because the user selected a different printer) should be notified that it can delete the print job clue as described in Column 12, lines 6-10).

Regarding Claim 11: (Original)

Stringham further discloses the method of claim 10 wherein the printer first checks the cache when it needs to issue a request for a resource (e.g., Print job scheduling module 126 monitors the available memory in printer 104 to determine when the next print job should start being received (this typically occurs prior to the current print job being completed). By starting to receive a next print job before the current print job is completed printing, the amount of time that print control module 132 is idle is reduced as described in Column 2, lines 64-67).

Regarding Claim 12: (Original)

Stringham further discloses the method of claim 1 wherein asking for rendering data in response to the initial request is performed either substantially immediately or after a delay due to utilization of resources for rendering of data from other clients (e.g.,

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Various scheduling models may be employed by scheduling module 126 in reordering the print jobs. Examples of such scheduling models include: **Give particular users priority** (e.g., any print job from the CEO's computer has first priority, any print job from the Vice President's computer has second priority, and everyone else has third priority as disclosed in Column 14, lines 44-50).

Regarding Claim 13: (Previously Presented)

Stringham discloses process for controlling printing of a print job by a printer comprising:

receiving a print job request from a client to the printer (Print job module 146 generates print jobs to be sent to printer 104. Print job module 146 generates a print job in response to a request from another application (not shown) executing on computer 102 to print a document, file, or other electronic data as described in Column 4, lines 14-18), said request comprising:

a unique source identifier for the job (the print job clue may maintain a separate job ID and job name, the job ID being a unique value that is used by computer 102 and printer 104, and the job name being the user-friendly identifier that is presented to the user. By allowing the user to enter a name for the print job, the user can more easily identify his or her print job when presented with a list of print jobs as described in Column 15, lines 54-67);

a type of document or documents that make up the print job (e.g., Referring to Table I; Print Medium Type of print medium to be printed on (e.g., paper, Type transparency, postcard, envelope, etc.);

a source address where a plurality of document resources can be retrieved (e.g., Referring to Table I; Computer ID Name or identifier of the computer that is the source of the print job.);

printer settings to apply to the document or documents (Table I);

metadata concerning the document or documents (Table I); and

a printer timeout (Print job clues may be maintained in queue 130 for different amounts of time after the jobs associate with the clues are printed. The amount of time that print job clues are maintained (after the associated print jobs are printed) in queue 130 can be time-based (e.g., keep the clue for 72 hours after the associated print job has been printed, keep the clue for one month after the associated print job has been printed, empty the queue every Monday morning at 2:00 am regardless of how many clues are in the queue, etc.) or size-based (e.g., keep no more than 100 clues in the queue, keep no more than 256 Kb of data in the queue, etc.), or a combination of time-based and size-based. In one implementation, print job scheduling module 126 is responsible for removing clues from the queue. Alternatively, another component or module may have this responsibility as described in Column 3, lines 26-40);

replying to the request with an initial response that indicates if the document print request can be accepted and if it is accepted, supplying a printer identifier for the print job on the printer for use by the client to subsequently identify the print job on the printer (Initially, the printers on which the print job may be printed are identified (act 302). This identification may be performed automatically, or alternatively may be made by the user. Information describing how soon the printer would be able to process a print job that is about to be submitted is then obtained from each identified printer (act 304). This information is then presented to the user (act 306), such as in a printer summary discussed above. A user selection of one of the printers is then received (act 308), and the print job is sent to the selected printer for printing (act 310) as described in Column 13, lines 10-19);

submitting from the printer a data request for document data at the source address (Generally, during operation, when an application on computer 102 desires to print data, the application initiates a print request. In response to the print request, clue generation module 144 generates a print job clue 152 that is communicated to printer 104 as described in Column 4, lines 37-45);

said data request identifying a resource in the document to retrieve, and an amount of resource data to retrieve (Print job scheduling module 126 determines when it needs to start receiving the print job data for the print job, and sends a request 154 for the print job data to computer 102

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so that it will receive the print job data at approximately the time it has determined it needs to as described in Column 4, lines 37-45);

receiving from the source address the requested document data at the printer (In response to this request, print job module 146 **sends the print job data** 156 to printer 104 for printing.);

and

processing the data at the printer and based on the contents of the document data issuing an additional request to the client for additional document data (Referring to Figure 3; A print job clue can include different fields each for providing specific information about the associated print job. Table I below includes various fields that may be included in a print job clue. The information in the print job clues received by printer 104 may be used by printer 104 in a number of ways. Exactly how this information is used can vary by implementation as well as what information is included in the clues. For example, printer 104 can use this information to: a) present to a user an indication of those print jobs that have been printed and/or are waiting to be printed; b) estimate a time to complete a print job that is presently being printed and/or is waiting to be printed; and/or c) determine an order that pending print jobs are to be printed.).

Regarding Claim 14: (Original)

Stringham further discloses the process of claim 13 wherein the metadata includes a size and type of the document or documents (e.g., Total Page Count shown in Column 5, Table 1).

Regarding Claim 15: (Original)

Stringham further discloses the process of claim 13 wherein the data request includes an offset into a collection of resource data (Print job module 146 generates print jobs to be sent to printer 104. Print job module 146 generates a print job in response to a request from another application (not

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shown) executing on computer 102 to print a document, file, or other electronic data as described in Column 4, lines 14-18).

Regarding Claim 16: (Original)

Stringham further discloses the process of claim 15 wherein the collection of resource data is a glyph or a range of glyphs (Print job module 146 generates print jobs to be sent to printer 104. Print job module 146 generates a print job in response to a request from another application (not shown) executing on computer 102 to print a document, file, or other electronic data as described in Column 4, lines 14-18).

Regarding Claim 17: (Original)

Stringham further discloses the process of claim 13 wherein the resource contains a picture or a font and wherein the printer issues a new request to retrieve the data for the font or picture (Print job module 146 generates print jobs to be sent to printer 104. Print job module 146 generates a print job in response to a request from another application (not shown) executing on computer 102 to print a document, file, or other electronic data as described in Column 4, lines 14-18).

Regarding Claim 18: (Original)

Stringham further discloses the process of claim 13 wherein the printer formats a page at a time and after each page the printer issues a request to retrieve data for the next page (In one implementation, print job module 146 is part of a printer driver on computer 102 that is specific to printer 104 and formats the print job data in a manner expected by printer 104 as described in Column 4, lines 19-23).

Regarding Claim 19: (Original)

Stringham further discloses the process of claim 13 wherein request for print resources are repeated until an entire job has been printed (Referring to Figure 3; A print job clue can include different fields each for providing specific information about the associated print job. Table I below includes various fields that may be included in a print job clue. The information in the print job clues received by printer 104 may be used by printer 104 in a number of ways. Exactly how this information is used can vary by implementation as well as what information is included in the clues. For example, printer 104 can use this information to: a) present to a user an indication of those print jobs that have been printed and/or are waiting to be printed; b) estimate a time to complete a print job that is presently being printed and/or is waiting to be printed; and/or c) determine an order that pending print jobs are to be printed.).

Regarding Claim 20: (Original)

Stringham further discloses the process of claim 13 wherein the printer sends the client a message that indicates that the job has been completed (Referring to Figure 3; A print job clue can include different fields each for providing specific information about the associated print job. Table I below includes various fields that may be included in a print job clue. The information in the print job clues received by printer 104 may be used by printer 104 in a number of ways. Exactly how this information is used can vary by implementation as well as what information is included in the clues. For example, printer 104 can use this information to: a) present to a user an indication of those print jobs that have been printed and/or are waiting to be printed; b) estimate a time to complete a print job that is presently being printed and/or is waiting to be printed; and/or c) determine an order that pending print jobs are to be printed.).

Regarding Claim 21: (Original)

Stringham further discloses the process of claim 13 wherein the print job request indicates a streaming mode wherein data is sent from the client to the printer as it becomes available to the client once the printer has accepted the print job (Print job scheduling module 126 controls the scheduling of print jobs on printer 104, and determines when print jobs will be printed. The order in which print jobs are printed can vary based on a variety of different factors, as discussed in more detail below. Print job scheduling module 126 monitors the available memory in printer 104 to determine when the next print job should start being received (this typically occurs prior to the current print job being completed). By starting to receive a next print job before the current print job is completed printing, the amount of time that print control module 132 is idle is reduced as described in Column 2, lines 64-67).

Regarding Claim 22: (Original)

Stringham further discloses the process of claim 13 wherein the initial request indicates that an amount of data in the job is not known (The printer 104 may generate the ghost print job clue using certain default values in place of actual values that are not immediately known. For example, the printer 104, upon initially receiving the print job request, **may not know one or more of the following: a) the total page count of the print job,** b) the print medium size that is to be used to print the print job, and/or c) the print quality setting that is to be used to print the print job. The printer 104, however, may be able to determine some or all of these values while it is processing the print job (and/or after the printer 104 has completed the print job). Once actual values are determined, the printer 104 may replace the corresponding default values with the actual values as described in Column 7, lines 53-65).

Regarding Claim 23: (Previously Presented)

Hines further discloses the process of claim 13 and wherein the data sent to the printer includes a data unavailable indicator which indicates to the printer data for said job is presently not available and further including a timeout during which the device

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suspends processing of said job until the data becomes available (Print job clues may be maintained in queue 130 for different amounts of time after the jobs associate with the clues are printed. The amount of time that print job clues are maintained (after the associated print jobs are printed) in queue 130 can be time-based (e.g., keep the clue for 72 hours after the associated print job has been printed, keep the clue for one month after the associated print job has been printed, empty the queue every Monday morning at 2:00 am regardless of how many clues are in the queue, etc.) or size-based (e.g., keep no more than 100 clues in the queue, keep no more than 256 Kb of data in the queue, etc.), or a combination of time-based and size-based. In one implementation, print job scheduling module 126 is responsible for removing clues from the queue. Alternatively, another component or module may have this responsibility as described in Column 3, lines 26-40)

Regarding Claim 24: (Original)

Hines further discloses the method of claim 13 wherein the client sends data to the printer when said data is made available to said client and wherein the printer awaits receipt of more data or an end of data indicator (e.g., printer 104 can use this information to: a) present to a user an indication of those print jobs that have been printed and/or are waiting to be printed; b) estimate a time to complete a print job that is presently being printed and/or is waiting to be printed; and/or c) determine an order that pending print jobs are to be printed as described in Column 5, line 62 – Column 6, line 2).

Regarding Claim 25: (Previously Presented)

Claim 25, a system claim is rejected for the same reason as Claims 1 and 13.

Regarding Claim 27: (original)

The system of claim 25 wherein the printer includes resources for storing print data to avoid repeated requests for print data from the print client (FIG. 12 illustrates portions of an exemplary device 400 in additional detail. Device 400 can be, for example: a computer 102 or printer 104 of FIG. 1

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or 2. Device 400 includes a processor or controller 402, a memory 404, a remote I/O device(s) 406, a local I/O device(s) 408, and an optional mass storage device 410, all coupled to a bus 412. Depending on the type of the device, various additional conventional components may also be typically included in device 400 (e.g., a printer will typically include a print engine, print media inputs and outputs, etc.).

Regarding Claim 28: (original)

The system of claim 25 wherein the printer comprises a memory which caches document resources or a part of a document resource and wherein the printer includes a computation device that maintains a hit cache and deletes resources from the cache when that have not been recently used when new resources are added to the cache (e.g., Print job scheduling module 126 monitors the available memory in printer 104 to determine when the next print job should start being received (this typically occurs prior to the current print job being completed). By starting to receive a next print job before the current print job is completed printing, the amount of time that print control module 132 is idle is reduced as described in Column 2, lines 64-67).

Regarding Claim 29: (original)

The system of claim 28 wherein computation device of the printer first checks the cache when it needs to issue a request for a resource (e.g., Print job scheduling module 126 monitors the available memory in printer 104 to determine when the next print job should start being received (this typically occurs prior to the current print job being completed). By starting to receive a next print job before the current print job is completed printing, the amount of time that print control module 132 is idle is reduced as described in Column 2, lines 64-67).

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6. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stringham (US 7,394,558) in further view of well known prior art.

Regarding Claim 26: (Original)

Stringham discloses the system of claim 25

However Stringham does not expressly disclose using a print head.

However it is well known in the art that some printers, particularly inkjet printers use cartridges with the print head attached.

(Official Notice)

At the time of the invention it would have been obvious to one of ordinary skill in the art to use a print head in a printing device.

The suggestion/motivation for doing so would be because an inkjet printer is a very common type of computer printer due to their low cost, high quality of output, capability of printing in color and ease of use.

Therefore, it would have been obvious to combine a print head with the printing system of Stringham to obtain the invention of Claim 26.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ross et al. (US 5,644,683) teaches an improved print mode and system for alleviating wait-banding.

Examiner Notes

8. The Examiner cites particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully considers the references in its entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or as disclosed by the Examiner.

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neil R. McLean whose telephone number is (571)270-1679. The examiner can normally be reached on Monday through Friday 7:30AM-4:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571.272.7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Neil R. McLean/

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/David K Moore/

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